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Choral Directors' Self Report of Accommodations Made for Boys' Changing Voices: A Twenty Year Replication

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Abstract

To explore possible changes in educators' self-reported strategies used to accommodate changing voices, we replicated survey data collected between 1998-2000 (Killian, 2003). The original survey, developed from strategies of 47 experienced directors, consisted of a checklist of accommodations (treble singers only, rewrite parts, sing an octave lower, assign non-singing responsibilities, separate choirs by TB or Treble) and voicings (2-part Treble, 3-part Mixed, SAB, SATB) as well as numbers of boys taught in grades 4-9. Additional questions included challenges of teaching changing voices and needs for more information.

To examine possible changes over twenty years, we made two modifications to the survey: we added "Sing Falsetto" to accommodation strategies (Wayman, 2018) and "Unison" and "TB" to voicing options. Participants ($N = 186$) included attendees at music education conferences ($n = 98$ in Texas and New Mexico MEA, and Southwestern ACDA), and online respondents ($n = 88$ music educators primarily from Dallas and Fort Worth Independent School Districts). Comparisons of 2020 and 1998-2000 revealed changes between "Sing an Octave Lower" (original: 39.9%; 2020: 19.9%), "Separate Choirs" (14.8%; 21.9%), and "Rewrite Parts" (35.5%; 22.4%). Comparisons of voicings revealed differences in 2-Part Treble (original: 36.5%; 2020: 13.7%), TTB (10.0%; 15.2%), and in 3-Part Mixed (28.9%; 6.2%). Current directors desired more information about the changing voice. They seemed to recognize that information was available, but, like their counterparts 20 years earlier, seemed challenged with the task of translating information into effective teaching strategies. Discussion included implications for future research and dissemination to choral practitioners.

Keywords: *boys' changing voice; vocal accommodations; repertoire voicing; teaching venues*

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The challenges of working with choirs that include boys with changing voices have been well established (Swanson, 1961) and remain of ongoing interest (Dillworth, 2012; Freer, 2018; Friddle, 2005; Killian & Kagumba, 2018; Welch et al., 2019). John Cooksey's seminal work (1977, 1999), which established predictable stages of the boys' voice change, has influenced subsequent research (Abrahams & Head, 2016; Fisher, 2014; Killian, 1999; Killian & Wayman, 2010a). Of particular interest to this study was the availability of practitioner information in the form of college method texts (Brinson & Demorest, 2013; Collins, 1999; Phillips, 2015; Small & Bowers, 1997), texts designed for secondary choirs (Crocker & Leavitt, 1995; Killian et al., 1998), instructional videos (Freer, 2005), choral sight-reading instruction (Crocker, 2020; Eaton et al., 2006; Farnell & Phillips, 2014), and warm-ups designed for changing voices (Anderson, 2017; Emerson, 2009; Freer, 2009). Professional organizations and their corresponding journals have endeavored to disseminate changing voice research-based techniques to practitioners. For example, *Update: Applications of Research in Music Education* sponsored by the National Association for Music Education (NAfME) published a series called "Research-to-Resource" that included researched-based hints for changing voice phonation (Freer, 2018) and specific strategies for success with changing voices (Fisher, 2020) which was subsequently published as a blog, "Music in a Minuet" on the NAfME website. The American Choral Directors Association (ACDA) in the *Choral Journal* has published much information about changing voices, exemplified by Dilworth's (2012) article on effective repertoire choices and strategies to achieve success with changing voice singers. His extended article has been reprinted and appears on many lists of recommended resources.

Conference presentations involving changing voices are perennial favorites (Wayman, 2018), but we found no published data on which conferences have included changing voice sessions. Such clinics often become publications or are featured on websites in an apparent effort to reach practitioners. For example, Killian and Wayman (2010b) presented such a session on changing voices at a national NAfME (then MENC) venue, and a summary was published in *Teaching Music* which appeared on the NAfME website in sections including "Navigating the Voice Change: Voicings," "Navigating the Voice Change: Repertoire," and "Bonus Content" of audio recordings under the title "Range is Everything." Such experiences appear to be common and illustrate professional organizations' efforts to disseminate information to practitioners.

Given the increased availability of both research and practitioner information, we questioned whether such increased availability might translate into changes in practice. Specifically, do directors know more about changing voices than they did twenty years ago? Are there differences in strategies? Do educators believe they have enough information when teaching changing voices? These questions were addressed by Killian (2003) when choral workshop attendees ($N = 405$ in 8 states collected from 1998-2000) responded to questions about their programs, the numbers of male singers, and specifically what accommodations they made for changing voices. We speculated that, given the dissemination of additional

information, reactions 20 years later might have changed, and we determined to replicate the study. Our replication addressed the same questions as Killian (2003) with the addition of an overarching question regarding possible changes over time. Questions included:

1. What strategies are used to accommodate boys' voices in grades 4-9?
2. What repertoire voicings are most frequently used in grades 4-9?
3. To what degree do teachers feel challenged when working with changing voices?
4. What needs do teachers perceive regarding changing voices?
5. What is teacher awareness of changing voices in their classes? and
6. What are possible changes across 20 years (1998/2000 to 2020)?

Method

In order to examine possible changes in self-report by choral educators regarding their work with changing voice boys, we designed a survey modeled after Killian (2003). The original survey was a checklist based on the comments of a panel of practicing music educators ($N = 47$) who provided lists of accommodations made for changing voices as well as repertoire voicings selected for that same population. Note that the resulting checklist items were not interpreted as recommended methods; rather, the inclusion of items was limited to accommodations and repertoire voicings mentioned by two or more pilot participants.

The resulting survey consisted of a checklist of accommodations (Treble Singers Only, Rewrite Parts, Sing an Octave Lower, Assign Non-Singing Responsibilities, Separate Choirs by Gender), and repertoire voicings (2-part Treble, 3-part Mixed, SAB, SATB) as well as demographic information. Respondents also listed the approximate number of boys they taught in grades 4-9 and estimated how many voices were unchanged, changing, or changed. This question was to determine the awareness of participants regarding their students' changing voices since some pilot respondents indicated a lack of familiarity with their boys' ranges or changing voice stages. We asked teachers to include male students in grades 4-9 since these grades encompass the ages inclusive of most changing voices (Fischer, 2010; 2014; Killian, 1999; Killian & Wayman, 2010a). Additional questions included challenges of teaching changing voices and desire for more information. Finally, the survey concluded with an open-ended question asking teachers what was needed to make their boys' choral experiences more successful.

For our 2020 replication, we made small modifications. Based on the authors' experiences while conducting recent choral workshops, we added: "Sing Falsetto" (Wayman, 2018) to the accommodation checklist options and "Unison" and "TB" to the repertoire voicing checklist options. Additionally, we changed the gendered language to more appropriate ter-

minology, i.e., references to boys' and girls' choirs were changed to T/B choirs and Treble choirs (Agha, 2017; Aguirre, 2018; McBride & Palkki, 2020). We recognize that much important information is now available regarding transgender and non-binary singers (Agha, 2017; Aguirre, 2018), but we purposefully limited the study to the same terminology (male voices) as was used in the original study for comparison purposes. Respondents were able to mention transgender/non-binary issues in free-response comments, but none did. Permission from the appropriate Institutional Review Boards for the Protection of Human Subjects was sought and granted for all surveys. The actual survey appears in Figure 1.

Boys' Changing Voice Survey

1. Circle all grade levels to which you teach music:
Pre-K K 1 2 3 4 5 6 7 8 9 10 11 12 College Adults

2. Do you direct a choir? Yes No
If yes, circle the grade level of the singers
Pre-K K 1 2 3 4 5 6 7 8 9 10 11 12 College Adults

3. Approximate years of teaching experience: _____

4. Your gender: _____

5. Approximate number of boys you teach in each grade	Approximate number of boys in each voice category		
	Unchanged	Changing	Changed
Grade 4	_____	_____	_____
Grade 5	_____	_____	_____
Grade 6	_____	_____	_____
Grade 7	_____	_____	_____
Grade 8	_____	_____	_____
Grade 9	_____	_____	_____
Grade 10	_____	_____	_____

6. How do you accommodate boys' changing voices? (check any that apply)

<input type="checkbox"/> Select treble singers only	<input type="checkbox"/> Sing Unison music
<input type="checkbox"/> Re-write selected parts	<input type="checkbox"/> Sing 2-part treble music
<input type="checkbox"/> Instruct them to sing an octave lower	<input type="checkbox"/> Sing TTB/TTBB music
<input type="checkbox"/> Instruct them to sing in falsetto	<input type="checkbox"/> Sing 3-part mixed music
<input type="checkbox"/> Assign them non-singing responsibilities	<input type="checkbox"/> Sing SAB music
<input type="checkbox"/> Have separate treble and tenor/bass choirs	<input type="checkbox"/> Sing SATB music
<input type="checkbox"/> Other (please explain) _____	

7. On a scale of 1-5, how challenging is working with boys' changing voices?
Very challenging 5 4 3 2 1 No problem

8. Do you feel you have enough information about changing voices?
Not enough information 5 4 3 2 1 Plenty of information

9. What do you need to make your boyd choral experience more successful? (use back if needed)

Figure 1
Changing Voice Survey (2020 Version)

Volunteer participants checked as many accommodations and voicings as applied to their situation. Participants, consistent with the original study, were a sample of convenience from volunteers who attended various venues regarding adolescent voices. Participants in this replication ($N = 186$) included attendees at state and regional music education conferences (Texas Music Educators Association, $n = 77$, New Mexico Music Educators Association, $n = 11$, and Southwestern American Choral Directors Association, $n = 11$) and respondents to an online version of the survey (Dallas, TX Independent School District, $n = 33$, Fort Worth, TX Independent School District, $n = 26$ and closed Facebook pages, Choir Directors of Texas and Elementary Music Teachers, $n = 26$). Calculation of actual response rates was impossible due to unavailability of numbers of participants in each venue. All data were collected during the early months of 2020, necessitating the use of online surveys due to the COVID-19 pandemic.

Results

Raw data consisted of frequency data regarding accommodation strategies and repertoire voicings used for changing voice boys, Likert-scale responses to opinion questions, estimates of numbers of unchanged, changing and changed voices, demographic information about directors' years of teaching experience and teaching venues, as well as content analyses of free-response opportunities. The design of the present investigation was purposeful, allowing the comparison of current results with those of practicing music educators from twenty years earlier. We reasoned that the availability of additional recent information (cf. Review of Literature) might influence the common practices of current respondents.

The original study utilized some statistical analyses; however, we elected to display current results solely as descriptive data, believing that the sample of convenience, and inclusion of both in-person and online responses made the use of statistical analyses somewhat suspect. We also reasoned that comparisons of responses across two decades might provide an interesting perspective of current choral education practice, stimulating future quantifiable research.

Accommodation Strategies

All respondents selected strategies used to accommodate boys' changing voices from a compiled list. In 2020, 173 different respondents (93.0%) checked multiple specific strategies (392 responses); 13 made no response. In 2003, 337 respondents (83.0%) made 568 responses while 69 did not respond. All subsequent data were converted to percentages to account for differing respondent pool sizes and response venues to allow comparison of data. See Figure 2 on page 28 for 2003 and 2020 comparisons of the specific accommodation strategies selected.

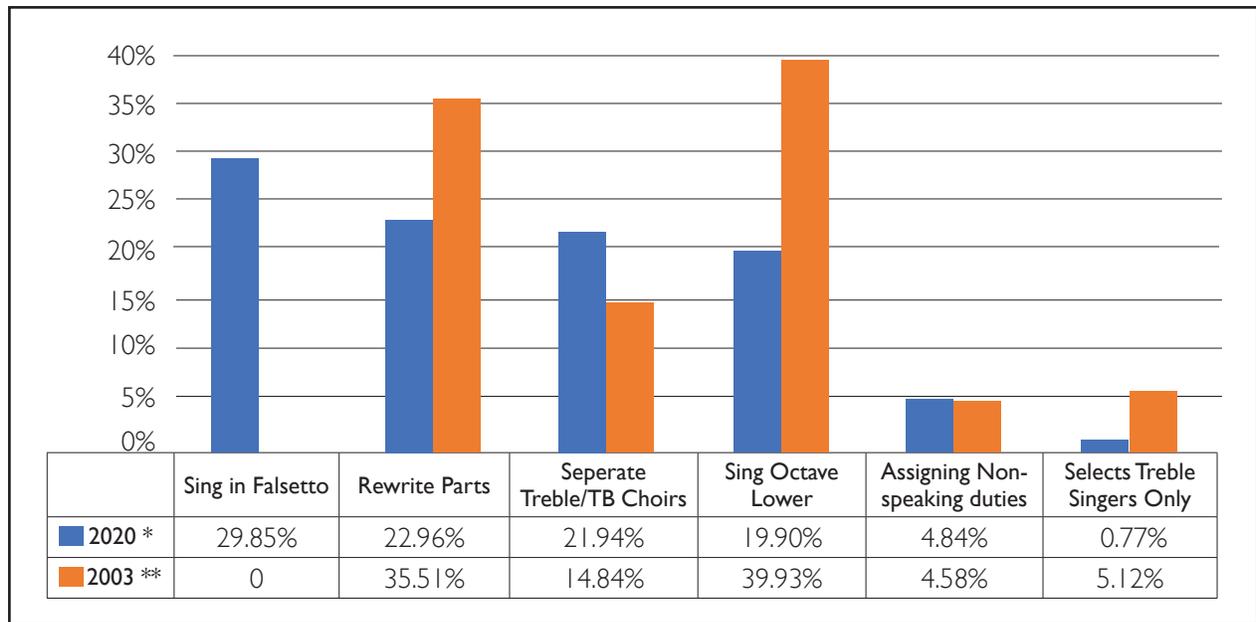


Figure 2
Percentage of Accommodation Strategies for Changing Voices Comparing 2003 and 2020

Repertoire Voicing Selections

Respondents indicated their choice of repertoire voicings to accommodate changing voice boys from a prepared list and could select as many as appropriate. Overall, 176 different 2020 participants checked voicings from the provided list resulting in 451 responses; 10 did not respond. See [Figure 3](#) for 2003 and 2020 comparisons. Participants could also respond to “Other,” which allowed explanation of their answers and/or strategies or voicings not

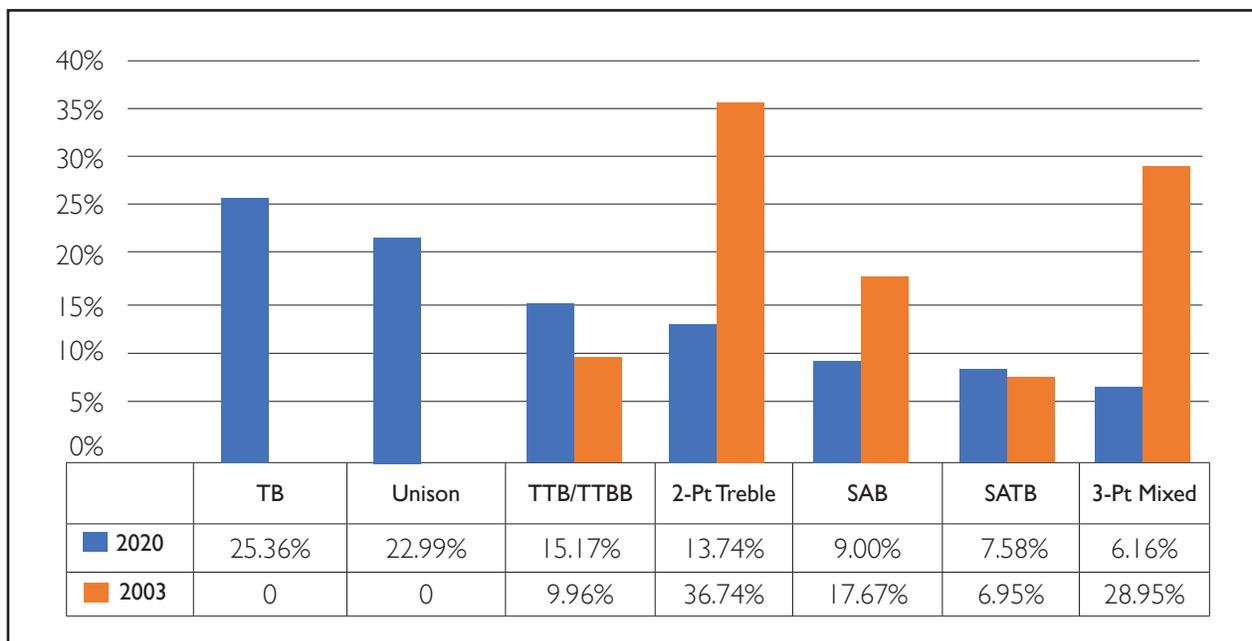


Figure 3
Percentage of Repertoire Voicings for Changing Voices Comparing 2003 and 2020

mentioned on the checklist. For 2020, 29 (15.6%) respondents added comments while 157 did not. For 2003, 104 (25.6%) made entries under “Other.” Like the 2003 data, 2020 “Other” comments included primarily anecdotes of effective strategies and ideas for ways to individualize repertoire.

How Challenging? Enough Information?

Participants responded to a 5-point Likert scale to answer the question: “How challenging is working with changing voices?” anchored by 5 (very challenging) and 1 (no problem). In both studies, responses ranged from 1-5 and were above half (3.0) with very small differences between means of 3.8, SD 1.2 (2003), and 3.3, SD 1.1 (2020). A larger mean indicated response toward very challenging.

Likewise, participants responded to a 5-point Likert scale to answer the question: “Do you have enough information about changing voices?” anchored by not enough information (5) and plenty of information (1). In both studies, responses ranged from 1-5 and were above half (3.0) with small differences between means of 3.8, SD 1.2 (2003), and 3.1, SD 1.3 (2020). A larger mean indicated responses toward “not enough information”. Figures 4 and 5 allow graphic comparisons.

Estimation of the Numbers of Changing Voice Boys

As in the original study, teacher estimations (specifically, how many changing voice boys were taught and in which voice change stages those boys were) revealed that teachers made estimates that were consistent with published data (Cooksey, 1999; Fisher, 2010, 2014; Killian, 1999; Killian & Wayman, 2010a). Teacher estimates indicated that: in 2003, 406 respondents taught 27,350 boys or 67.35 boys per teacher, while in 2020, 186 respondents taught 10,255 boys or 55.13 per teacher. Table 1 on page 30 allows comparison of 2003 and 2020 data for teacher estimates of the percentage of boys with unchanged, changing, and changed voices.

What is Needed to Make Boys’ Choral Experiences More Successful?

In a free-response format, teachers were asked, “What do you need to make your boys’ choral experiences more successful?” In 2003, 226 (55.7%) of the 406 participants responded. In 2020, 116 (62.4%) of the 186 participants responded. Table 2 on page 30 presents the categorized responses across twenty years.

Demographic Information

Teaching Venues

Teaching venues varied between 2003 and 2020 as seen in Table 3 on page 30. In 2003 the largest percentage taught pre K-fifth graders (45.0%), while in 2020, the largest group of participants taught exclusively sixth-eighth graders (46.2%), which also included some

Table 1.*Teacher Estimates of Percentage of Unchanged, Changing, & Changed Voices in Grades 4-10*

Grade	Total # Boys Listed		# Unchanged, Changing, Changed Listed		% Unchanged		% Changing		% Changed	
	2003	2020	2003	2020	2003	2020	2003	2020	2003	2020
Grade 4	8594	1522	7753	1573	91.60	91.54	7.44	8.01	0.95	0.45
Grade 5	8407	1568	7238	1598	77.25	76.85	19.19	16.90	3.56	6.26
Grade 6	5056	2438	4488	2211	61.23	66.53	30.95	25.96	7.82	7.51
Grade 7	2361	2061	2115	1842	43.31	33.93	45.30	43.97	11.39	22.10
Grade 8	2051	1579	1830	1337	20.98	14.06	46.89	40.69	32.16	45.25
Grade 9	881	575	781	480	5.76	11.67	31.37	37.92	62.87	50.42
Grade 10	N/A	512	N/A	391	N/A	6.14	N/A	26.60	N/A	67.26
Total N	27,350	10,255	24,205	9432	16,786	5032	5416	2610	2003	1790

Table 2.*What we needed to Make Boys's Choral Experiences More Successful*

Response Categories	2003	2020
Music/Literature Needs	35.83%	18.56%
Teacher Request for Additional Information	18.33%	19.16%
Time/Scheduling Issues	13.75%	11.38%
Teacher Anecdotes	9.58%	7.19%
Psychological/Sociological Considerations	8.75%	13.77%
Teaching Techniques/Suggestions	7.08%	15.57%
Recruiting Issues	6.67%	5.39%
Male Vocal Models*	0.00%	8.98%

Note: *Category added to the 2020 study due to increased mentions

*Categorization reliability = 92.17%

(agreements divided by agreements + disagreements calculation - Madsen & Madsen, 2016).

Table 3*Percentage of Respondents Teaching Various Grade Groupings*

	Pre K-5 th	K-8 th	6-8 th	6-12 th	9-12 th	K-12 th
2003	45.00%	5.00%	19.80%	9.90%	1.50%	18.80%
2020	26.34%	4.30%	44.09%	8.06%	16.13%	1.08%

who taught exclusively sixth grade music. Notably, only a single 2020 respondent taught K-12 students, while a large number (18.8%) did so in the 2003 sample.

Directing Choirs

Overall, 84.0% of the 2003 respondents and 88.7% of the 2020 respondents indicated they currently directed choirs.

Gender

In 2020, 61.3% of the respondents self-identified as female and 38.7% as male. Gender was not a question on the 2003 survey.

Discussion

Comparison of choral directors' self-report in 2020 and 2003 regarding their work with boys' changing voices revealed many similarities as well as some notable differences. As we addressed our original questions, it was noted that 2020 teachers reported they still find working with changing voices very challenging, but only slightly less so than their 2003 counterparts. Similarly, 2020 teachers reported they have slightly more information on the topic, but very few believe they have enough. A few more effective strategies/accommodations were mentioned in 2020, but many teachers still listed the same needs that were mentioned in 2003. So it appears that much work remains to be done. Specifics are discussed below.

Location

Twenty years have passed between data collections, but the two samples (both samples of convenience and including only individuals who were interested enough to attend events on adolescent singers) should not be considered typical of all music teachers, nor can the two samples be considered similar to each other. The location of respondents varied between 2003 and 2020. The 2003 data consisted of collections between 1998-2000 from Minnesota ($n = 93$), North Dakota ($n = 82$), North Carolina ($n = 55$), Utah ($n = 29$), Florida ($n = 43$), Tennessee ($n = 22$), New Mexico ($n = 20$), and Texas ($n = 62$). The 2020 data were collected exclusively from the southwest, primarily Texas, with a few from New Mexico and the Southwestern ACDA, which includes Arkansas, Colorado, Kansas, Missouri, New Mexico, Oklahoma, and Texas (ACDA website). Further, all of the 2003 data were collected face to face, while 47.3% of the 2020 data were collected via online surveys. Thus much caution should be used when comparing these data.

Accommodations for Changing Voices

In 2020, the most prevalent accommodations included a combination of singing in fal-

setto, rewriting parts, and singing an octave lower (total of 72.7%). See Figure 2. In 2003 the accommodations included a combination of singing an octave lower and rewriting parts (total of 75.4%). The “Sing Falsetto” option was not available to 2003 respondents, but, notably, only one 2003 respondent mentioned falsetto in free-response opportunities. It is not clear whether either group was aware of data indicating that falsetto is not available until later voice stages (Cooksey, 1999; Killian & Wayman, 2010a), or whether singing in a lower octave is not always possible during all stages of the voice change (Cooksey, 1999). Comments in the free-response sections, however, would imply such awareness. For example, respondents in 2003 modified their checklist answer of “Sing Octave Lower” with phrases such as: “Octave lower if possible,” “Octave lower when it works,” and “Sing octave down only on selected notes in the music,”

Respondents in 2020 indicated increased specificity that seemed to demonstrate their awareness of the variability in changing voices. Representative responses included: “Lots of vocal training with falsetto working transitions, switch t/b parts as necessary, leave out notes,” “Change key, mark out individual notes,” and “Transpose music constantly to fit the ranges of most of the singers in the choir.”

Notably, 21.9% of 2020 respondents recommended separate Treble or T/B choirs, while only 14.8% of 2003 respondents chose this option. Teaching venues seemed quite different for the two groups (Table 3), and this fact may have affected whether directors believed there was a possibility of separating choirs into Treble and T/B groups.

It should be noted that although “Selecting Only Treble Singers” was checked 29 times (5.1%) in 2003 and three times (0.8%) in 2020, only four people made that their only choice (all in 2003). Additionally, while “Assign Non-Singing Duties” was chosen by 26 (2003) and 19 (2020), only four (2003) or two (2020) made it their only choice of accommodation. Thus, neither group of respondents appeared to indicate a tendency to exclude changing-voice boy singers.

Repertoire Voicings

Figure 3 presents a comparison of repertoire voicings between 2003 and 2020. Note that “TB” and “Unison” were 2020 additions and that a combined 48.35% of 2020 respondents chose those voicings. Despite comments that more repertoire voicings seemed to be available for changing voices (Wayman, 2019), many 2020 respondents mentioned the need for more appropriate repertoire. Based on informal conversations with publishers who track T/B music sales, southwestern choirs may have more separate T/B and Treble choirs, and the data in Table 3 tended to confirm that speculation. Remember that 2020 respondents taught in the southwest, primarily Texas, while 2003 respondents included a mix of midwestern states as well as Texas. Unfortunately, we did not ask either 2003 or 2020 respondents whether they actually had separate Treble and TB or Mixed choirs, so no data were available. It would appear logical that as more separate choirs (TB or Treble) are formed, fewer SAB or 3-Part Mixed or SATB repertoire would be needed. Notable differ-

ences appeared in 3-Part Mixed selections (2020 = 6.2% while 2003 = 29.0%). Publishers informally confirmed that 3-Part Mixed voicings were becoming less common. Whether practitioners are buying fewer 3-Part Mixed octavos, whether composers are not writing for that voicing, or whether fewer publishers are providing that option is undeterminable. Additional research regarding to what extent publishers affect repertoire voicing patterns seems merited.

Awareness of Changing Voices

Examination of the self-reported data in Table 1 revealed that overall a remarkable number of male singers were receiving music instruction. The 2003 data indicated 406 respondents reported teaching 27,350 boys or 67.4 boys per teacher, while in 2020, 186 respondents taught 10,255 boys or 55.1 per teacher. Both sets of data show that the numbers of unchanged voices decreased with each year in school, and the number of changed voices increased. Interestingly, in 2003 the number of changing voices peaked in Grades 7 and 8 and declined in Grade 9; in 2020 changing voices peaked in Grade 7 but declined in Grades 8 and 9. Since these data were only estimates by individual teachers, this result should not be considered conclusive; but it perhaps indicates an observed tendency toward earlier vocal maturation (Fisher, 2014; Killian, 1999; Killian & Wayman, 2010a, Reiter, 2012). The studies cited, all involving US singers, concurred that voices were changing earlier, but the reader should note that these conclusions were questioned among researchers investigating UK choristers (Ashley, 2010, 2013; Ashley & Mecke, 2013), so clearly further research is advised on the unresolved issue of whether voices are changing earlier. The teachers' estimates may indicate the awareness they have of their singers' voices or may suggest that they also were aware of what the data should show. We did not ask respondents whether or not they tested voices individually, and that is certainly a ripe area for future research. Further research focused on the timing of maturation among adolescent male singers is undoubtedly warranted. The reader is reminded that teacher estimates rather than confirmed data was a major limitation of this study, so generalizations are cautioned.

How Challenging? Enough Information?

Results seemed to indicate that 2020 respondents viewed working with changing voices as slightly less challenging ($M = 3.3$ on a 1-5 scale) than their 2003 counterparts ($M = 3.8$). Similarly, 2020 respondents tended to think they had slightly more information about changing voices ($M = 3.1$ for 2020 and 3.8 for 2003). See Figures 4 and 5 on page 34. However, note that both sets of means are above the midpoint of 3.0 on a 1-5 scale, so teaching changing voices remains fairly challenging, and more information would be welcome. In fact, only 21 (11.3%) of the 2020 respondents believed they had "plenty of information" despite the prevalence of articles and clinics about adolescent voices. Open-ended comments confirmed this conclusion.

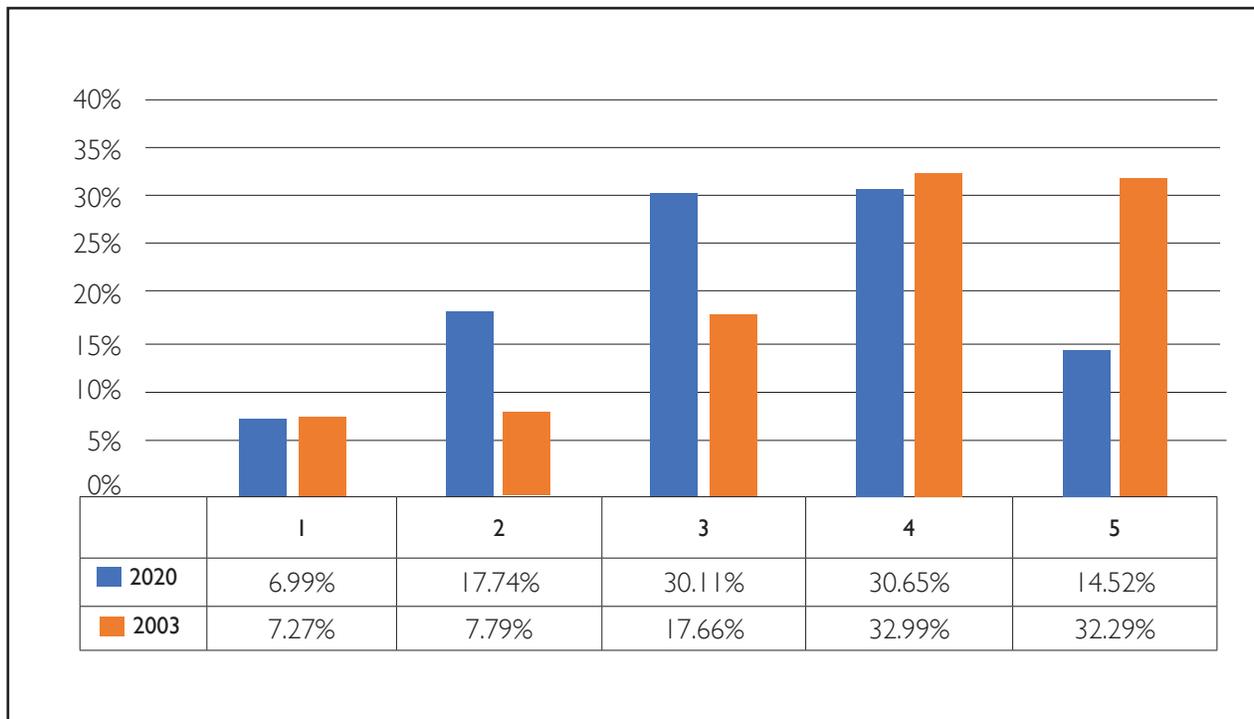


Figure 4
 Comparison: On a Scale of 1 (not challenging) – 5 (very challenging):
 How Challenging is Working with Boys’ Changing Voices?

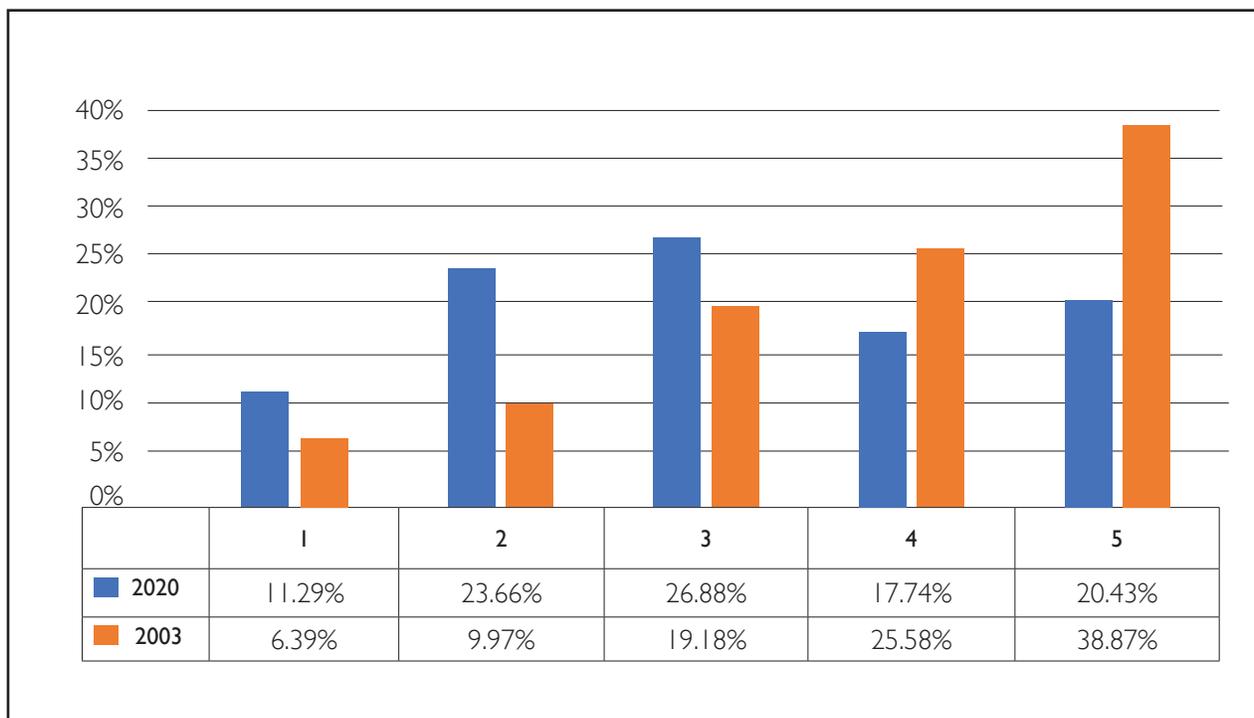


Figure 5
 Comparison: One a Scale of 1(plenty) to 5 (not enough):
 Do You Feel You Have Enough Information About Boys’ Changing Voices?

Were these differences created by 2020 teachers' increased knowledge? Or were these differences situational? Further comparisons among teachers who have separate TB and Treble choirs might be a fruitful area of research. Note that the 2003 data included teachers who taught grades K-12, K-5, 6-8, and high school while the 2020 data included teachers who primarily taught grades 6-8. See Table 3. This one difference might make the two data sets rather incomparable. So generalizations, however interesting, should be made with great caution.

While 2020 teachers self-reported they knew slightly more about changing voices, they still indicated their desire for more information ($M = 3.1$ for 2020 on a 1-5 scale vs. 2003 $M = 3.8$). Further, 2020 teachers still found teaching changing voices quite challenging but slightly less so than 2003 respondents ($M = 3.3$ for 2020 and 3.8 for 2003). Note that responses closer to 5 indicate "more challenging" and "need more information." See Figures 4 and 5.

Open-Ended Responses

Responses to the question "What do you need to make boys' choral experiences more successful?" were quite similar between 2003 and 2020, with most involving the need for additional information, time and scheduling challenges, teacher anecdotes, and the need for recruiting information. One area of difference was that respondents in 2020 mentioned a category that did not appear in 2003: "Need for male vocal models." The need for appropriate music literature was rated much lower in 2020 (18.6% vs. 35.8%), perhaps indicating the increased availability of materials and publications (Cf. Review of Literature). A number of respondents included their own teaching suggestions in their open-ended responses. More teaching suggestions were made in 2020 (15.6%) compared to 2003 (7.1%) perhaps implying an increased self-confidence and knowledge of effective strategies among the 2020 teachers.

Interestingly, psychological considerations were mentioned more frequently in 2020 (13.8% vs. 8.8% in 2003), perhaps reflecting our general society, especially during the time of COVID-19, as well as additionally available studies on the topic (Dilworth, 2012; Fisher, 2014; Freer, 2007; Killian, 1997; McBride & Palkki, 2020; Sweet, 2010; Warzecha, 2013).

Teachers in the 2020 sample seemed to mention more specific strategies and explain them in greater detail. This fact may reflect increased knowledge, improved confidence, or be the result of having more time to respond to an online survey rather than answering quickly before running to the next session during a conference. Examples of the more specific answers:

I have unchanged voices sing in the proper section, either soprano or alto. As the voice changes, we assess what needs to happen and move them around as needed. As long as the singer is supported and praised for singing the "right" part, I've had few issues.

I teach them to know where they are in the voice change process (M1, M2, M2A, NB, SB), to not sing below their lowest note, and to use falsetto when needed. Additionally, use transposition of most music to keep songs within the ranges needed.

Teachers in 2020, like their 2003 counterparts, continued to request more information and further repertoire, often using more detail to do so. Representative responses included:

More support from the middle/high school choir teachers in my pyramid area. It would be great if in the spring semester teachers would come and do a “workshop” and Q & A with all the boys and maybe even check their ranges, etc. Just like the band director comes and checks them out on instruments.

I would like a refresher course on how to serve the boys who are going through voice change. Strategies to help them navigate through the time when they can only sing 3 notes would be helpful. I would also like to have separate choirs for middle school boys.

A whole school environment that really supports the efforts of young men who choose to sing, within the classroom as well as across the school. Choir needs to be a place for students who enjoy singing, not just a dumping ground to fill numbers.

Quality choral literature that is sensitive to the male changing voice. Contests that understand it may be necessary to rewrite a vocal part to accommodate the male changing voice.

Quick ways to assess voice ranges Easy principles to know to rewrite voice parts Directives that encourage changed, changing, and unchanged voices to sing comfortably in their natural way. I need more input from an older male singer. What did “it” feel like? How did he feel emotionally? What did he do to keep singing as he went through the voice changes?

Energy, lots of activities and goods pacing, motivated by competition and food.

The more data I gather about their voice in class, the better I teach.

Some teachers seem to believe that falsetto is something students just know how to do. As a male who had a teacher like that, I will tell you that I quit singing for many years because of that attitude. I would leave choir in pain, and it just wasn't worth it. I finally had a teacher (band director, of all things) who had us sing our parts. He encouraged me to sing in whatever range was comfortable, as long as I

could hear the tune. That helped me discover that I, in fact, loved singing as long as I could sing in my register.

Overall, it was inspiring to read of the enthusiasm, the concern, and the thirst for knowledge expressed by the 592 directors (2003 plus 2020) and the care they communicated for the combined 37, 605 male singers they taught. Much research remains to be conducted on this important topic. We would urge presenters at workshops and similar events to use these directors' stated desires for more successful strategies as inspiration for workshop content, as we continue to collect data and disseminate the resulting information to the teachers and students who benefit. The summary of the 2003 study remains most appropriate today:

Further study might address qualitative research regarding individuals working with changing voices, development of quantitative measures of singing achievement among changing voice boys, examination of the correlation between what directors say is the most effective method and what they actually do, exploration of techniques teachers use to determine voice ranges and stages among their choir members, and further exploration of what directors across the nation are actually doing to assist young singers to make music during their voice change. It is hoped that this study will serve as a springboard to many more specific investigations of teaching boys with changing voices and help to identify best practices from among the recommended strategies. (Killian, 2003, p. 9).

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